State of Illinois
Department Of Transportation

CONSTRUCTION INSPECTOR'S CHECKLIST FOR BITUMINOUS CONCRETE PAVEMENT (FULL DEPTH)

This checklist has been prepared to provide the field inspector a summary of easy-to-read, step-by-step requirements relative to the proper construction of Bituminous Concrete Pavement (Full Depth). The following questions are based on and referenced to information found in the Special Provision, the Standard Specifications, Highway Standards, *Project Procedures Guide*, Construction Manual, and current policy memorandums and letters.

Have you reviewed the contract Special Provisions, Supplemental Specifications and Plans. ____

1. GENERAL

Except as specified, Bituminous Concrete Pavement (Full-Depth) shall be constructed according to the applicable portions of Section 406 of the Standard Specifications. Review the applicable requirements in the Construction Inspector's Checklist for Bituminous Concrete Binder and Surface Course, Class I. ____

2. SUBGRADE

The subgrade shall be prepared according to Section 301of the Standard specifications except Articles 301.04 and 301.05 will not apply. (Art. 407.05) ____

When specified, a lime modified soil layer shall be constructed in accordance with Section 302 of the Standard Specifications. ____

a. The surface of the lime-modified soil shall be brought to true shape and correct elevation according to Article 301.06. ____

b. Trimmings from the lime treated subgrade shall be removed prior to placement of the binder course to prevent blowing and dusting of the layers. (Art. 407.06) ____

c. The subgrade or lime-modified soil layer shall be compacted to not less than 95% of the standard dry density. The in place density of the completed subgrade will be tested at least every 450 m (1500 ft.) ____

3. PLACEMENT

Placing of bituminous concrete binder and surface shall be according to Article 406.15 and the following:

The compacted thickness of the initial lift of binder course shall be a minimum 100 mm (4 in.) thick. ____

Succeeding binder lifts shall be no more than 100 mm (4 in.) thick when compacted except the top lift of binder shall have a minimum 50 mm (2 in.) thick compacted layer. ____

The compacted lift thickness of lower layers of binder may be increased to 150 mm (6 in.) if a vibratory roller is used for breakdown, and the required density is obtained. ____

Longitudinal joints shall be constructed in accordance with Article 407.06. ____

Note: Longitudinal joint construction is the same procedure as specified for Bituminous Concrete Binder and Surface Course. Refer to the Inspector's Checklist and Article 406.15.

Each lift of bituminous concrete mixture shall be thoroughly cleaned of all dirt, dust and foreign material prior to placing the next lift. ____

A light fog of prime coat shall be applied between lifts of bituminous concrete. ____

a. The prime shall be RC-70. ____

b. The application rate shall be 0.1 L/m^2 (0.02 gal./square yard) ____

4. HAULING ON PARTIALLY COMPLETED PAVEMENT

Trucks will be permitted on partially completed pavement only to deliver bituminous mixture to the paver. (Art. 407.08) ____

Thickness of binder in-place must be greater than 100 mm (4 in.), the last paving lift has cooled a minimum of 24 hours and the air temperature is below 30°C (85°F). ____

When the above criteria are met, further load limit restrictions will be strictly enforced as shown in the following table:

Load Limit Restrictions		
	Type of Hauling Traffic	
Total Lift Thickness mm. (in.)	Below 30°C (85°F)	30°C (85°F) & above
100-180 mm. (4-7 in.)	Unloaded	None
180-240 mm. (7-9.5 in.)	Legally Loaded	Unloaded
Greater than 240 mm. (9.5 in.)*	Legally Loaded	Legally Loaded

* With the last lift having cooled a minimum of 12 hours.

A traffic pattern shall be established that prevents “tracking” of vehicles one directly behind the other. ____

Crossovers shall be used to transfer haul trucks between roadways. ____

a. Spaced not less than 300 m (1000 ft.) apart. ____

b. Constructed of a material that prevents tracking dust or mud on the completed bituminous concrete layers. ____

c. Constructed, maintained and removed at the contractor’s expense. ____

5. PIPE UNDERDRAINS

Placement of underdrains, when specified, should be in accordance with Section 601 of the Standard Specifications and Standard 601001. ____

Construction of underdrains shall not be started until at least 240 mm (9.5 in.) of bituminous concrete binder is placed. (Art. 407.07) ____

Material excavated from the underdrain trench shall not be deposited or windrowed on any portion of the full-depth pavement. (Art. 407.07) ____

6. SURFACE TESTS

The finished surface of the pavement shall be tested using a California Profilograph or a 5 m (16 ft.) straightedge. (Art. 407.09)

5 m (16 ft.) straightedge will be used on the following pavement surfaces:

a. Locations listed in Table 1 shall be tested in the wheel path with the 5 m (16 ft.) straightedge set to the tolerance specified. ____

Location	Tolerance
Ramps, Loops and Climbing Lanes	6 mm ($^1/_4$ in.)
Mainline Gaps ≤ 160 m (0.1 mile)	6 mm ($^1/_4$ in.)
Bridge Approaches	6 mm ($^1/_4$ in.)
Side Roads & Side Streets > 180 m (600 ft.) in length	6 mm ($^1/_4$ in.)
15 m (50 ft.) from Bridge Approaches or Existing Pavement or Mainline Gaps	6 mm ($^1/_4$ in.)
All curves ≤ 300 m (1000 ft.) radius including SE transitions	10 mm ($^3/_8$ in.)
Acceleration Deceleration Lanes	10 mm ($^3/_8$ in.)
Side Streets ≤ 180 m (600 ft.) in length	10 mm ($^3/_8$ in.)
Turn Lanes, Storage Lanes and Crossovers, Etc.	10 mm ($^3/_8$ in.)
Intersections	10 mm ($^3/_8$ in.)

b. Mainline pavements with less than or equal to 70 km/h (40 mph) will be tested in the wheel paths with a 5 m (16 ft.) straightedge set to a 5 mm ($^3/_{16}$ in.) tolerance. ____

c. Mainline pavements with greater than 70 km/h (40 mph) with a net project length of less than 1600 m (1 mile) will be tested in the wheel path with a 5 m. (16 ft.) straightedge set to a 5 mm ($^3/_{16}$ in.) tolerance. ____

d. All surface variations that exceed the above tolerance shall be removed with an approved grinding device consisting of multiple saws. ____

e. The contractor will furnish and provide jobsite transportation for the 5 m (16 ft.) straightedge. ____

Profilograph – All mainline pavement shall be tested with a California Profilograph, except the mainline pavement previously specified for testing with a 5 m (16 ft.) straightedge. ____

a. The Profile Index and Price Adjustments will be determined in accordance with Article 407.09(b)(2). ____

b. Corrective grinding will be in accordance with Article 407.09(b)(3). ____

7. SURFACE SMOOTHNESS TEST

Form MAT 2012, “Pavement Surface Smoothness Test Request”, shall be prepared and submitted upon completion of the pavement. ____

8. THICKNESS TESTS

The thickness of the pavement will be checked at least every 75 m (250 ft.). (Documentation Section) ____

a. Before and after cross sections with a rod and level, or before and after measurements taken from an established reference elevation such as a stringline. (See Documentation Section of the Construction Manual) ____

b. As a minimum, the "after" cross sections will be obtained after placement of the top lift of binder and after placement of the surface course. Additional thickness determination may be needed at intermediate lifts of the binder to maintain control of the placement operation. (See Documentation Section of the Construction Manual) ____

The pavement thickness will be determined after completion based on core samples and adjustments made in the final payment, if required. (Art. 407.10) ____

9. DOCUMENTATION OF FINAL QUANTITIES

Bituminous Concrete Pavement (Full-Depth) will be paid for at the contract unit price per square meter (square yard) of the type and thickness specified.

a. Contract Quantities – The requirements for the use of contract quantities shall conform to Article 202.07(a). Form BC 981, Agreement on Accuracy of Plan Quantities, must be signed and on file prior to starting work. (See Documentation Section of the Construction Manual). ____

b. Measured Quantities – Pavement will be measured in place and the quantity for payment shall be computed in square meters (square yards). The maximum width for payment shall be the top width of the bituminous concrete course as shown on the plans. (Art. 407.12(b)) ____

Light fog tack coat of prime, when required between lifts, shall be paid according to Article 109.04. ____

If the contract requires the contractor to furnish a profilograph, all costs associated with maintenance and jobsite transportation will be paid for at the lump sum price for FURNISH PROFILOGRAPH. (Art. 407.13) ____

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